Florida Stormwater Association

Woodard & Curran

From Presumptive to Performance: Practical Solutions for Florida's Statewide Stormwater Rule

Presenter: Carly Quinn, PE

FSA Annual Conference

June 19, 2026

Agenda

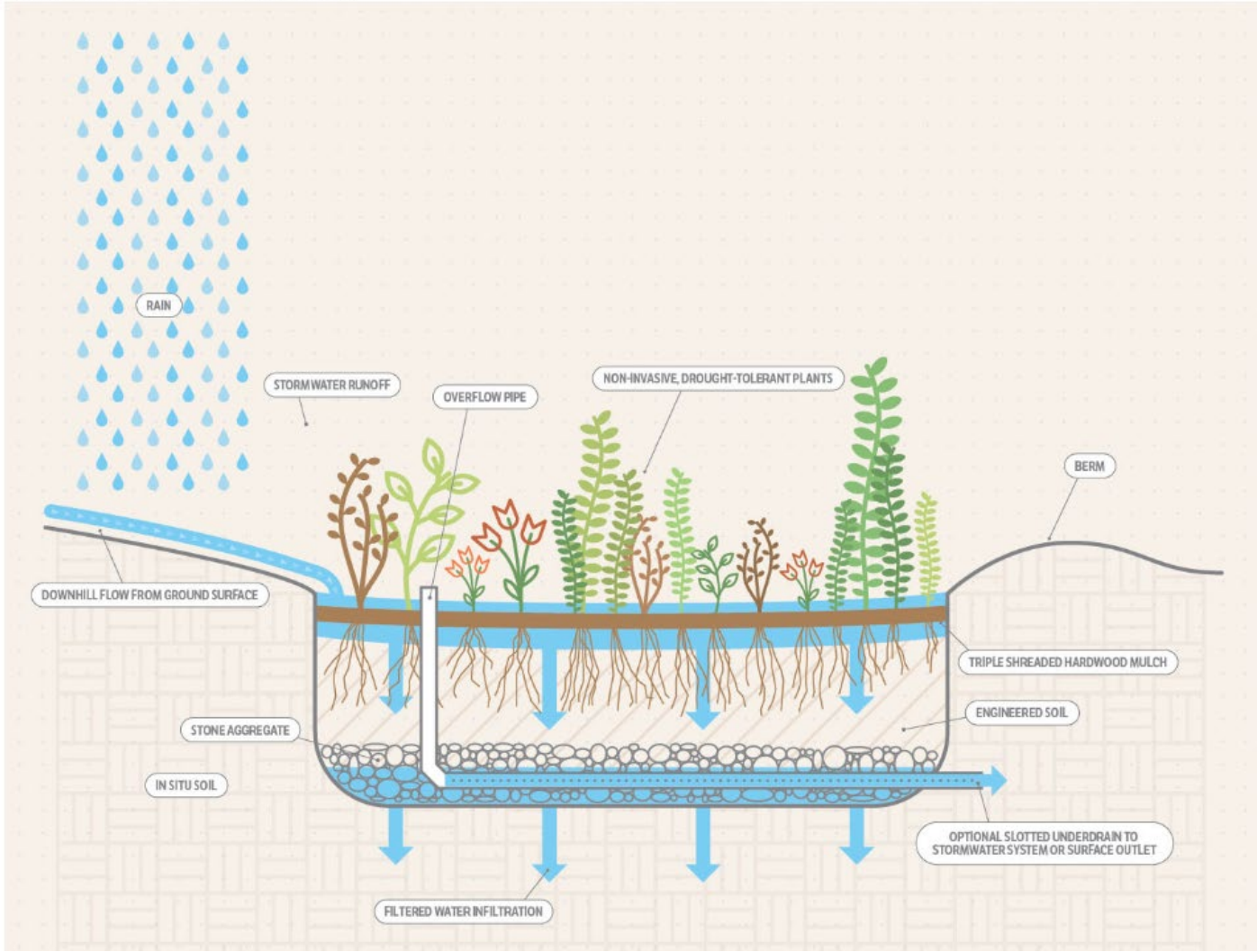
Brief Statewide Stormwater Rule Overview

Case Study 1

Case Study 2

Key Takeaways

Raingarden/Bioretention Cell



Source: FDEP ERP Applicant's Handbook

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Statewide Stormwater Rule Performance Criteria

High-level overview

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Overview of Changes

Most notable for this presentation are **bolded**

- Changes to AH Volume I
  - Chapter 2 – Definitions
  - Section 3.1.2 – Grandfathering
  - **Chapter 8 – Performance Criteria**
  - **Chapter 9 – Stormwater Quality Treatment Calculations**
  - Chapter 11 – Erosion and Sediment Control
  - Chapter 12 – O&M and Inspections
- Established new design framework to achieve pollutant reduction goals, including TP and TN
- Establishes SW BMPs that reflect scientific based performance
- Ensures consistent application of net improvement standards

Permit Applicability

Most notable for this presentation are **bolded**

1. Any project in, on, or over wetlands or other surface waters;
2. **A total of more than 4,000 square feet of impervious and semi-impervious surface areas subject to vehicular traffic;**
3. **A total of more than 9,000 square feet of impervious and semi-impervious surface area;**
4. **A total project area of more than five acres;**
5. A capability of impounding more than 40 acre-feet of water;
6. Any dam having a height of more than 10 feet, as measured from the lowest elevation of the downstream toe to the dam crest;
7. Any project that is part of a larger common plan of development or sale;
8. Any dry storage facility storing 10 or more vessels that is functionally associated with a boat launching area;
9. Any project exceeding the thresholds in section 1.2 (District-specific thresholds) of the applicable Volume II, or
10. Any modification or alteration of a project previously permitted under Part IV of Chapter 373, F.S.

Performance Standards

Project Scenario	TP	TN	Additional Criteria
All sites	80	55	Or post ≤ pre
OFW	90	80	Or post ≤ pre
Impaired water	80	80	And post ≤ pre plus net improvement
Impaired + OFW	95	95	And post ≤ pre plus net improvement
Redevelopment	80	45	N/A
Redevelopment + OFW	90	60	N/A
Redevelopment + impaired	80	45	And net improvement for the pollutant of concern

Plus 80% average annual post-development TSS load reduction, or 95% TSS load reduction if located within a HUC-12 containing an Outstanding Florida Water (OFW) and upstream of that OFW

Source: FDEP

Performance Standards

Helpful flow chart from FDEP can be viewed online by scanning this QR code with your phone's camera

https://floridadep.gov/sites/default/files/Rule%20Flowchart_0.pdf

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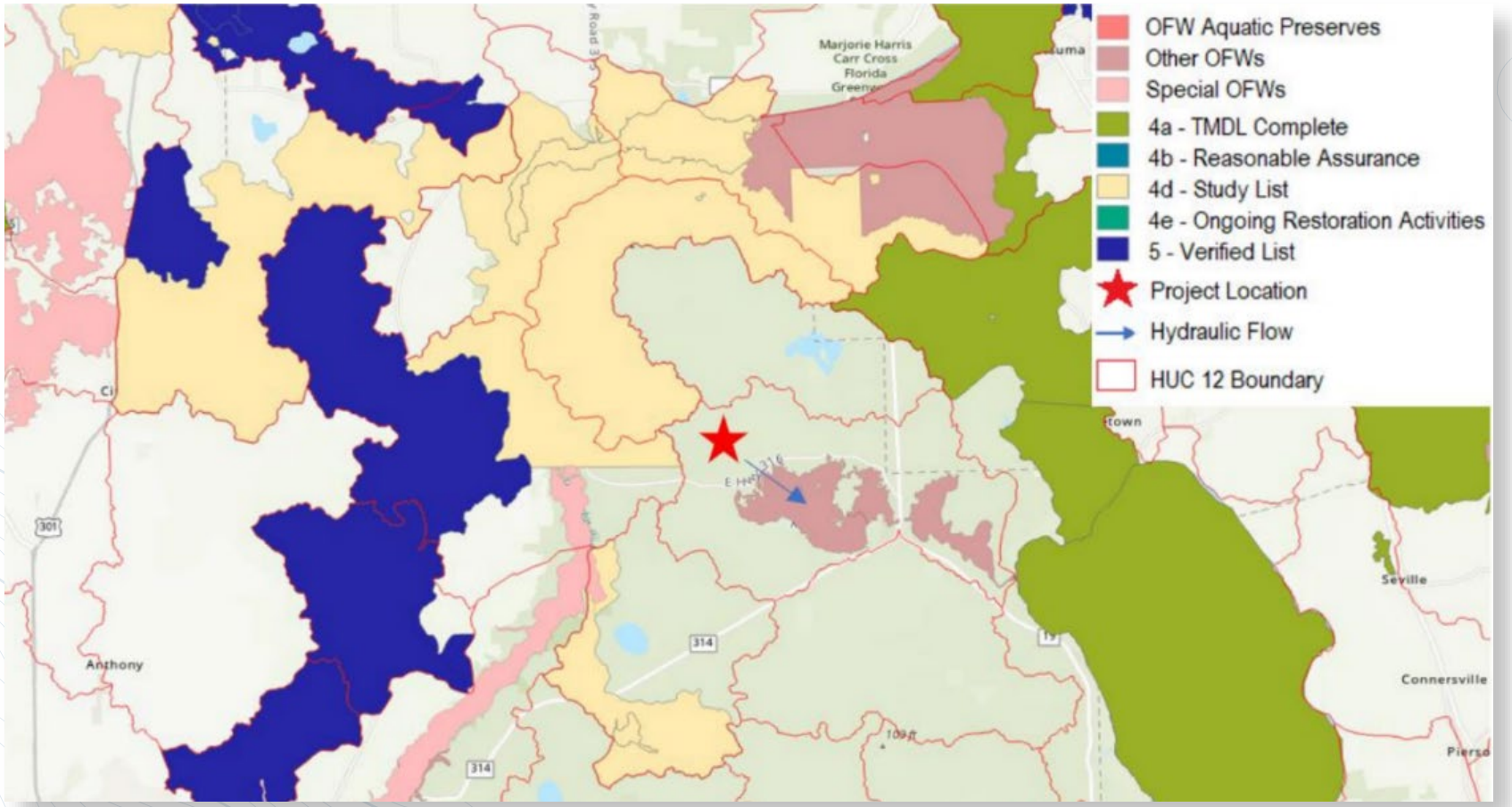
Permit Challenges



Requires new, performance-based calculations

Standards/requirements are based on project type (redevelopment vs. new development) and site location related to receiving waterbody, which can add confusion

Updates to treatment calculation tools (BMPTrains) not yet completed

Source: FDEP

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Case Study 1

- Project Introduction
- Pre/Post Nutrient Loading
- Nutrient Reduction Calculations

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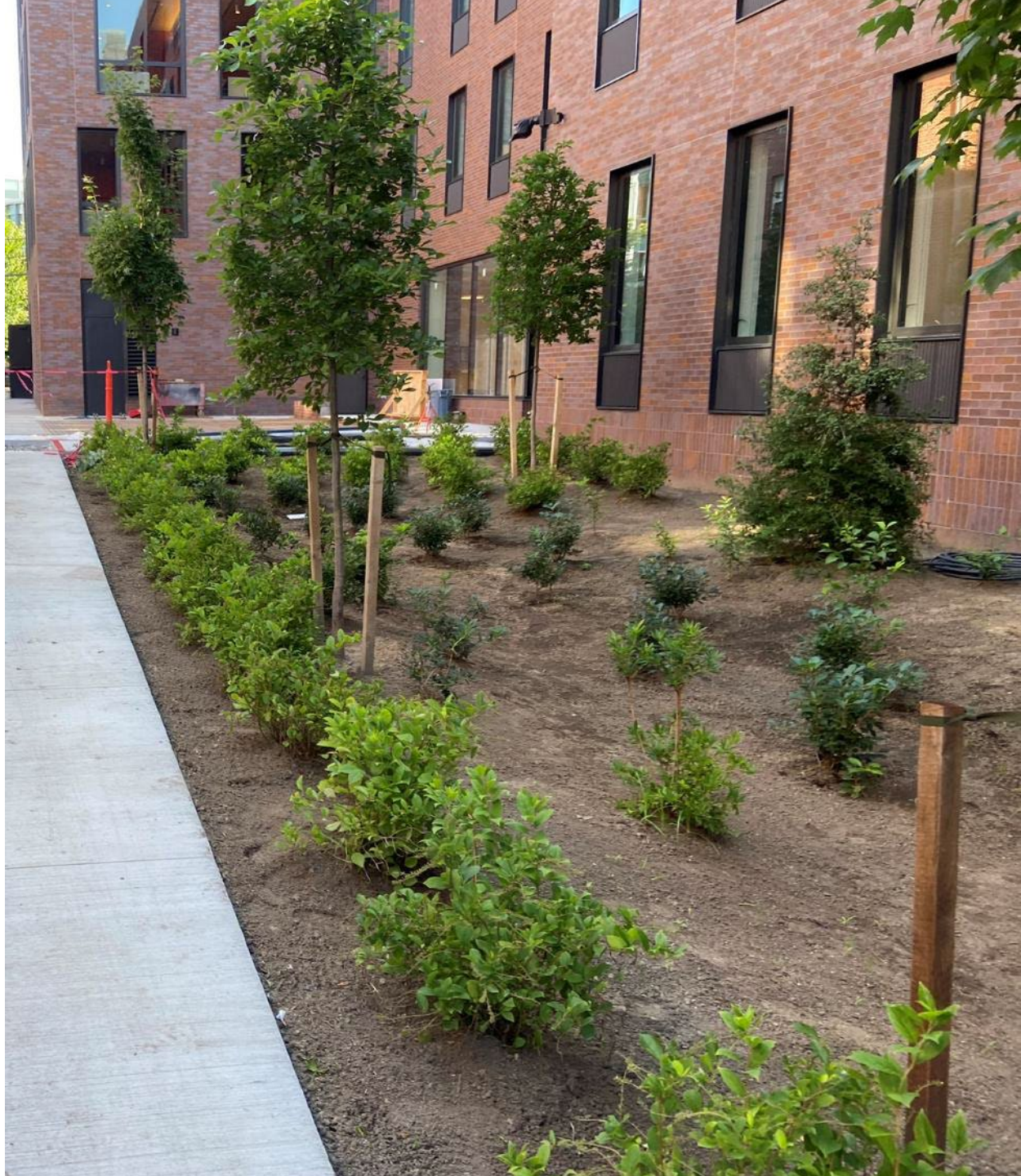


Project Introduction

- Redevelopment
- Urban university campus (mixed commercial/ residential land use)
- Within impaired watershed

Pre Nutrient Loading

From AH Vol 1 Table 9.2 Standardized Statewide Stormwater Nutrient EMC Values based on Land Use Category

Using Equation 9-1 from AH Vol 1

Site	Total Catchment Area (ac)	Land Use	Non-DCIA CN	Existing				Total Nitrogen (TN)		Total Phosphorus (TP)	
				% DCIA	ROC Value	DCIA (ac)	Annual Runoff Volume (ac-ft)	EMC TN (mg/l)	Existing Annual TN Load (lb/yr)	EMC TP (mg/l)	Existing Annual TP Load (lb/yr)
A	0.60	High Intensity Commercial	85	80%	0.72	0.48	1.86	2.40	12.13	0.345	1.74
B	0.22	Multi-Family Residential	79	70%	0.64	0.16	0.60	1.84	3.02	0.520	0.85
		Total				**0.64**	**2.46**		**15.15**		**2.60**

Based on hydrologic soil group and cover type (poor/fair grass cover, HSG C)

From AH Vol 1 Appendix N

Using Equation 9-2 from AH Vol 1

Directly Connected Impervious Area (DCIA) = impervious areas that are directly connected to the stormwater conveyance system, or provide concentrated shallow flow over a short (<10' for HSG A or B, <20' for other soil types) pervious area

Equation 9-1

$$Annual\ Runoff\ Volume\ (ac-ft.) = Area\ (acres)\ x\ Average\ Annual\ Rainfall\ (inches)\ x\ ROC\ Value\ x\ (1ft/12in)$$

Equation 9-2

$$Annual\ Average\ Mass\ Loading = Annual\ Runoff\ Volume\ x\ EMC$$

The components of Equation 9-2 are expressed in different units and require some conversion factors, as provided below.

$$Annual\ Mass\ Loading\ (lb./year) = Annual\ Runoff\ Volume\ (ac-ft./year) * 43{,}560\ ft2$$

$$/ac * 7.48\ gal/ft3\ x\ 3.785\ liter/gal * EMC\ (mg/l) * 1\ lb./453{,}592\ mg$$

Pre Nutrient Loading Continued

Appendix M

Rainfall Criteria

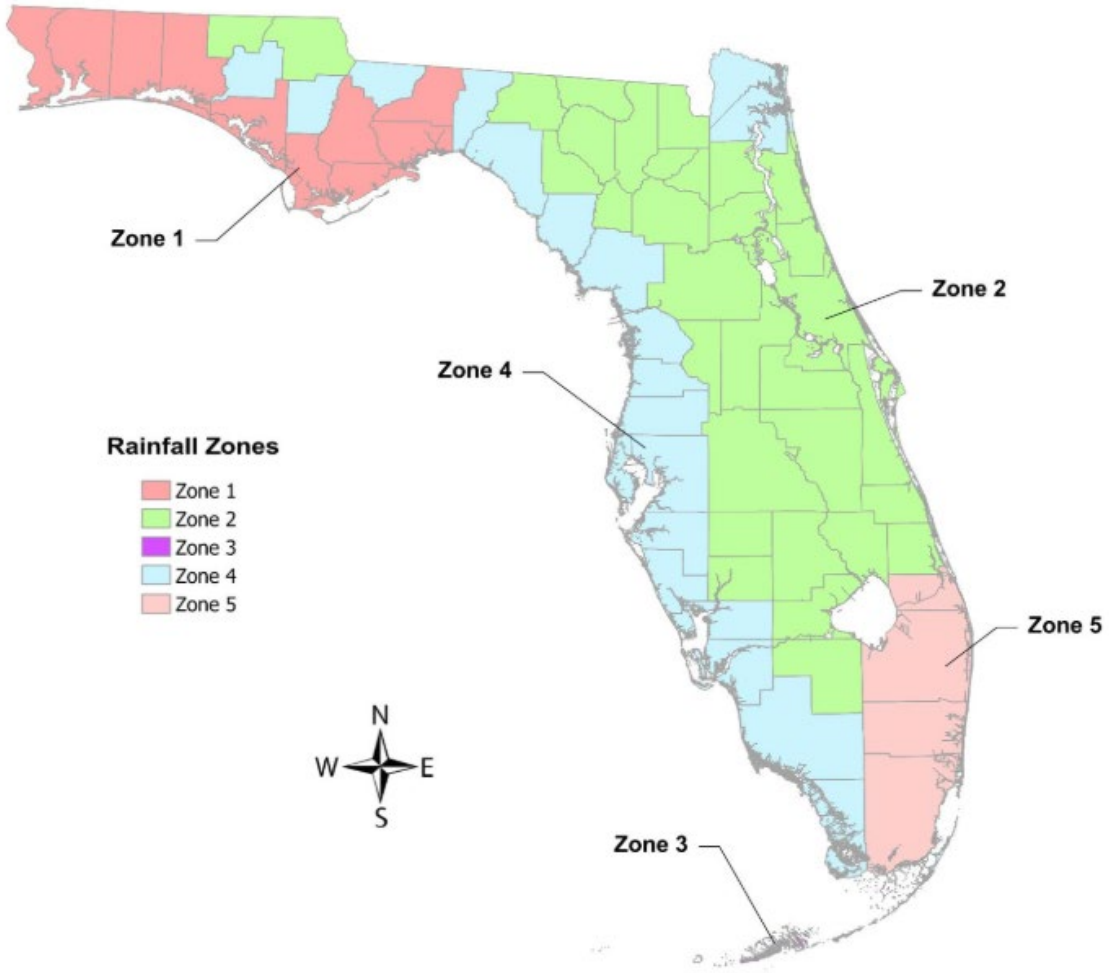
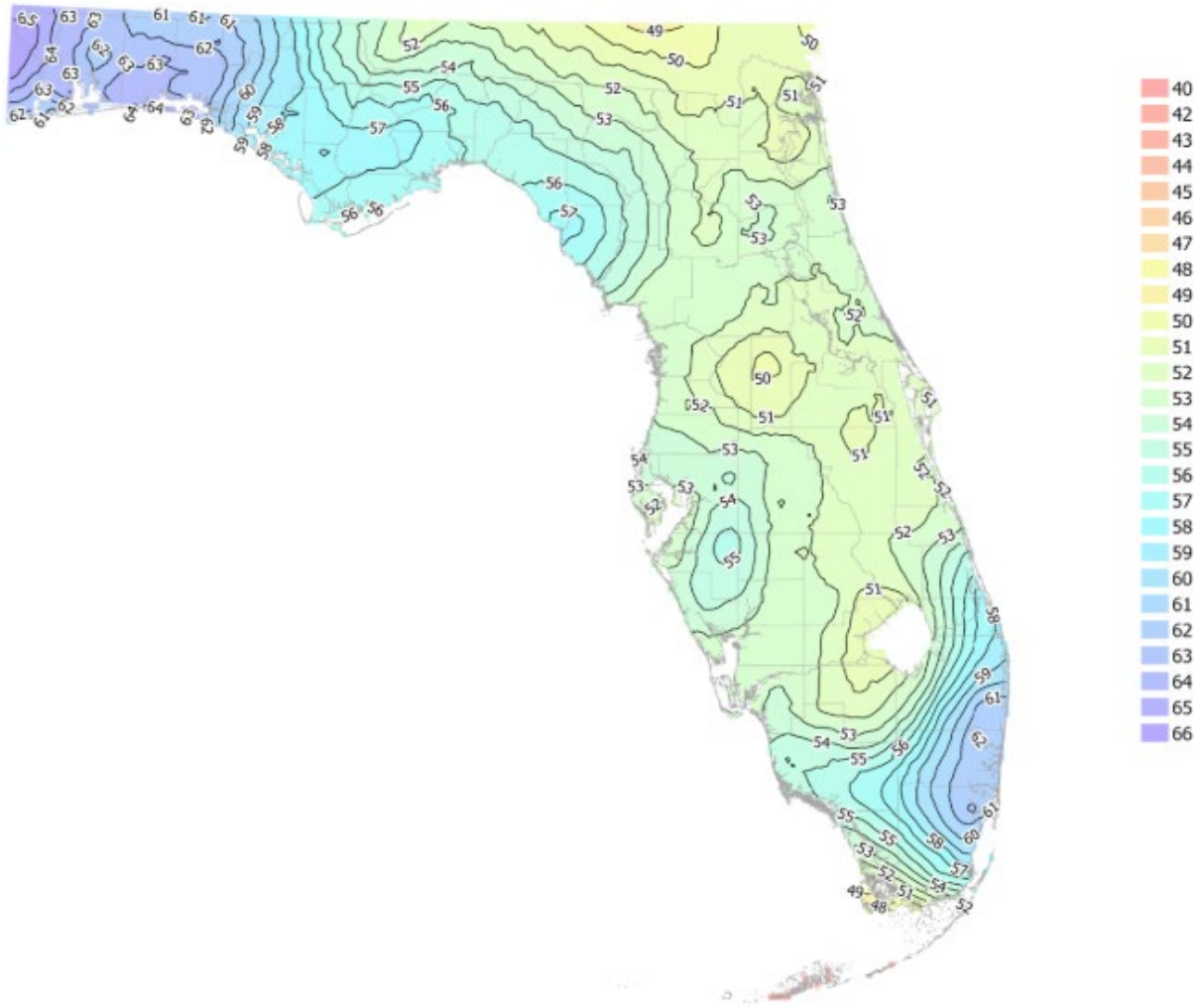


Figure 1: Designated Meteorological Regions (Zones) in Florida

Figure 2: Average Annual Rainfall Isopleth Map for Florida



Pre Nutrient Loading Continued

Appendix N
Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number

ZONE 1
Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number

NDCIA CN	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
	0.006	0.048	0.090	0.132	0.175	0.217	0.259	0.301	0.343	0.386	0.428	0.470	0.512	0.554	0.596	0.639	0.681	0.723	0.765	0.807	0.849
35	0.009	0.051	0.093	0.135	0.177	0.219	0.261	0.303	0.345	0.387	0.429	0.471	0.513	0.555	0.597	0.639	0.681	0.723	0.765	0.807	0.849
40	0.014	0.056	0.098	0.139	0.181	0.223	0.265	0.307	0.348	0.390	0.432	0.474	0.515	0.557	0.599	0.641	0.682	0.724	0.766	0.808	0.849
45	0.020	0.062	0.103	0.145	0.186	0.228	0.269	0.311	0.352	0.394	0.435	0.476	0.518	0.559	0.601	0.642	0.684	0.725	0.767	0.808	0.849
50	0.029	0.070	0.111	0.152	0.193	0.234	0.275	0.316	0.357	0.398	0.439	0.480	0.521	0.562	0.603	0.644	0.685	0.726	0.767	0.808	0.849
55	0.039	0.079	0.120	0.161	0.201	0.242	0.282	0.323	0.363	0.404	0.444	0.485	0.525	0.566	0.606	0.647	0.687	0.728	0.768	0.809	0.849
60	0.052	0.092	0.132	0.172	0.212	0.252	0.291	0.331	0.371	0.411	0.451	0.491	0.531	0.570	0.610	0.650	0.690	0.730	0.770	0.810	0.849
65	0.069	0.108	0.147	0.186	0.225	0.264	0.303	0.342	0.381	0.420	0.459	0.498	0.537	0.576	0.615	0.654	0.693	0.732	0.771	0.810	0.849
70	0.092	0.130	0.167	0.205	0.243	0.281	0.319	0.357	0.395	0.433	0.471	0.508	0.546	0.584	0.622	0.660	0.698	0.736	0.774	0.812	0.849
75	0.121	0.158	0.194	0.230	0.267	0.303	0.340	0.376	0.412	0.449	0.485	0.522	0.558	0.595	0.631	0.667	0.704	0.740	0.777	0.813	0.849
80	0.162	0.196	0.230	0.265	0.299	0.334	0.368	0.402	0.437	0.471	0.506	0.540	0.574	0.609	0.643	0.678	0.712	0.746	0.781	0.815	0.849
85	0.220	0.252	0.283	0.315	0.346	0.378	0.409	0.441	0.472	0.503	0.535	0.566	0.598	0.629	0.661	0.692	0.724	0.755	0.787	0.818	0.849
90	0.312	0.339	0.366	0.393	0.419	0.446	0.473	0.500	0.527	0.554	0.581	0.608	0.634	0.661	0.688	0.715	0.742	0.769	0.796	0.823	0.849
95	0.478	0.496	0.515	0.533	0.552	0.571	0.589	0.608	0.626	0.645	0.664	0.682	0.701	0.719	0.738	0.757	0.775	0.794	0.812	0.831	0.849
98	0.656	0.666	0.676	0.685	0.695	0.705	0.714	0.724	0.734	0.743	0.753	0.763	0.772	0.782	0.792	0.801	0.811	0.821	0.830	0.840	0.849

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Post Nutrient Loading

Site	Total Catchment Area (ac)	Land Use	Non-DCIA CN	Proposed				Total Nitrogen (TN)		Total Phosphorus (TP)	
				% DCIA	ROC Value	DCIA (ac)	Annual Runoff Volume (ac-ft)	EMC TN (mg/l)	Annual TN Load (lb/yr)	EMC TP (mg/l)	Annual TP Load (lb/yr)
A	0.27	Multi-Family Residential	85	55%	0.57	0.15	0.65	1.84	3.26	0.520	0.92
B	0.17			5%	0.25	0.01	0.18		0.89		0.25
C	0.32			100%	0.85	0.32	1.14		5.71		1.61
D	0.07			5%	0.25	0.00	0.08		0.39		0.11
		Total				**0.48**	**2.05**		**10.24**		**2.90**

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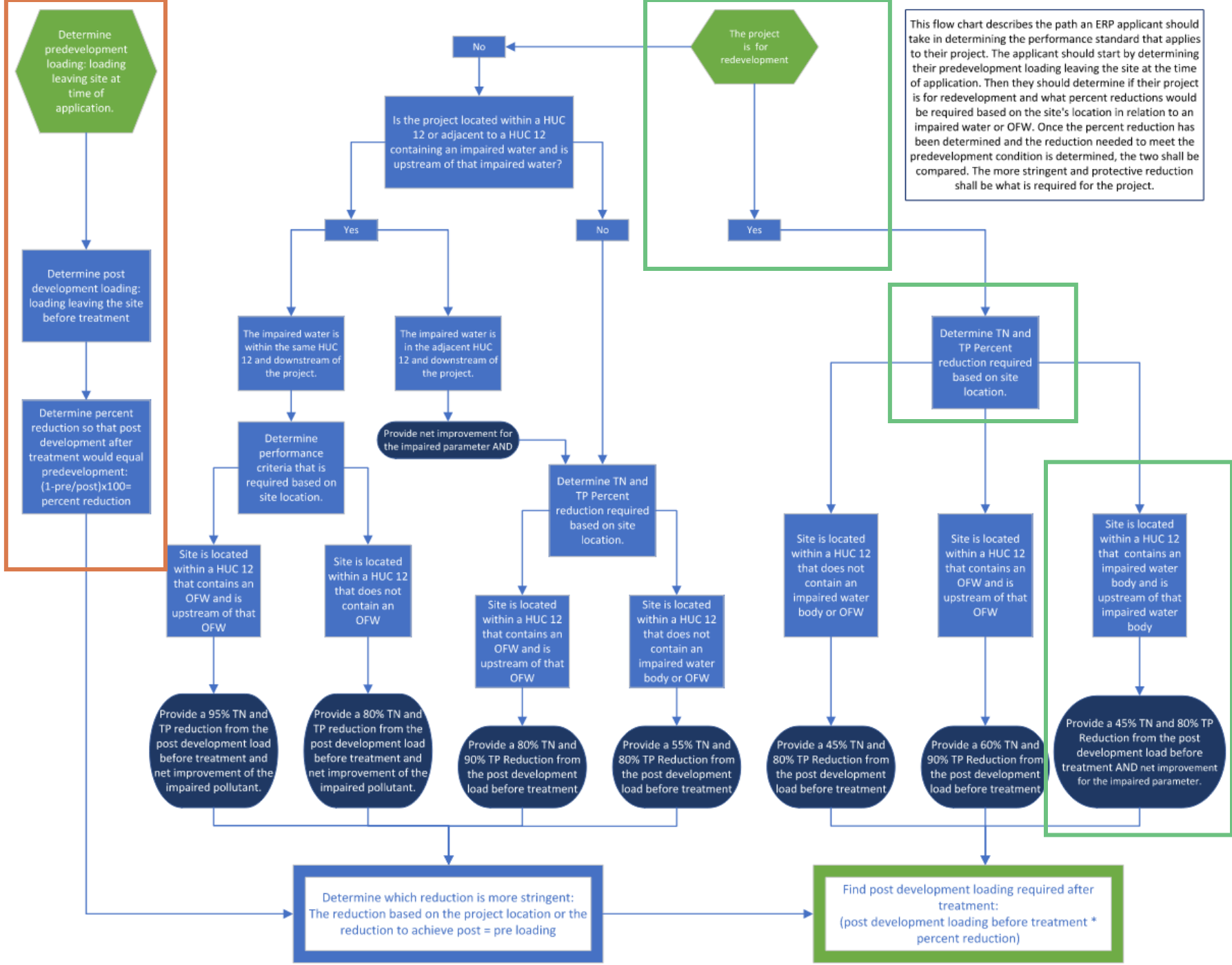
Performance Standards

- Determine reduction requirement
  - Post ≤ Pre,
  - Project Location (Redevelopment + Impaired),
    - 45% TN and 80% TP
  - And net improvement for pollutant of concern



Post Reduction Requirement

- Post – Pre TN Load (lb/yr)
  - 10.24 – 15.15 = -4.91 lb/yr (-47.9%)
- Post – Pre TP Load (lb/yr)
  - 2.90 – 2.60 = +0.30 lb/yr (+10.3%)

	Post ≤ Pre	Project Location
TN	-47.9%	**45%**
TP	10.3%	**80%**

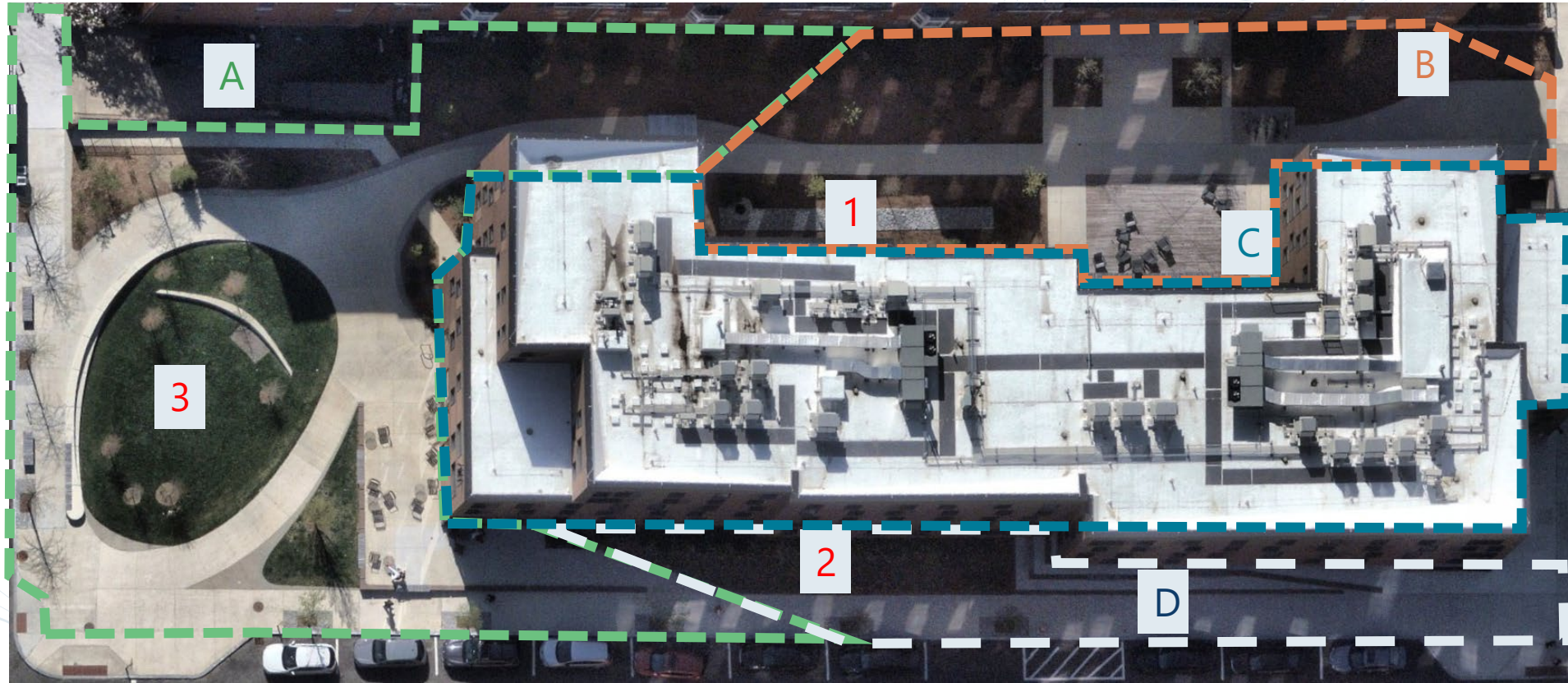
$$\left(1-\left(\frac{Predevelopment\ Loading\ \left(\frac{lb}{yr}\right)}{Postdevelopment\ Loading\ \left(\frac{lb}{yr}\right)}\right)\right) X\ 100$$

Pollutant	Post Load (lb/yr)	Required Reduction		Allowable Post Load (lb/yr)
		%	lb/yr	
TN	10.24	45%	4.61	**5.63**
TP	2.90	80%	2.32	**0.58**

Post Treatment

Catchment	Treatment 1	Treatment 2
A (West)	Biofiltration (Rain Garden) (3)	-
B (North)	Swale (1)	Biofiltration (Rain Garden) (3)
C (Roof)	Biofiltration (Rain Garden) (3)	-
D (South)	Vegetated Filter Strip (2)	Biofiltration (Rain Garden) (3)

Green Stormwater Infrastructure Efforts Including: Green Roofs, Rain gardens, Swales with blocks, Bioswales, Tree boxes, Tree wells, Vegetated Natural Buffers, Vegetated filter strip, Pervious Pavement Systems	Use appropriate retention or detention calculation for volume captured then add an additional removal based on plant, soil and media selections in a treatment train configuration.	Use appropriate retention or detention calculation for volume captured then add an additional removal based on plant, soil and media selections in a treatment train configuration.	Evaluation of current stormwater design criteria within the state of Florida, Harper and Baker 2007



Post Treatment

$$Overall\ Treatment\ Train\ Efficiency = 1 - [(1 - Eff1) \times (1 - Eff2) \times (1 - Eff3) \times \ldots \times (1 - Effn)]$$

where:
Eff1 = efficiency (as a decimal) of initial or first treatment system
Eff2 = efficiency (as a decimal) of second treatment system
Eff3 = efficiency (as a decimal) of third treatment system
Effn = efficiency (as a decimal) of the n^{th} treatment system

Catchment	Treatment 1	Treatment 2
A (West)	Biofiltration (Rain Garden) (3)	-
B (North)	Grass Swale (1)	Biofiltration (Rain Garden) (3)
C (Roof)	Biofiltration (Rain Garden) (3)	-
D (South)	Grass Swale (2)	Biofiltration (Rain Garden) (3)

Treatment Details:
Biofiltration (Rain Garden) Treatment Train:
Detention (with underdrain) + Sand Media Mix
(Media Efficiency from BMP Trains User Manual (2020)
Grass Swale: 1" retention (Zone 1)

	Detention (1 day residence)	Sand Media	Treatment Train Efficiency
TN	8.1%	30%	35.7%
TP	40.1%	45%	67.1%

Site	Total Catchment Area (ac)	Non-DCIA CN	% DCIA	Total Nitrogen (TN)		Total Phosphorus (TP)		Treatment 1 % Reduction		Treatment 2 % Reduction		Load Remaining (lb/yr)	
				EMC TN (mg/l)	Annual TN Load (lb/yr)	EMC TP (mg/l)	Annual TP Load (lb/yr)	TN	TP	TN	TP	TN	TP
1A	0.27	85	55%	1.84	3.26	0.520	0.92	35.7%	67.1%	-	-	2.09	0.30
1B	0.17		5%		0.89		0.25	64.8%	64.8%	35.7%	67.1%	0.20	0.03
1C	0.32		100%		5.71		1.61	35.7%	67.1%	-	-	3.67	0.53
1D	0.07		5%		0.39		0.11	64.8%	64.8%	35.7%	67.1%	0.09	0.01
Total					10.24		2.90					**6.05**	**0.87**

TN (6.05 lb/yr) > Allowable TN (5.63 lb/yr) ✗
TP (0.87 lb/yr) > Allowable TP (0.58 lb/yr) ✗

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Post Treatment

$$Overall\ Treatment\ Train\ Efficiency = 1 - [(1 - Eff1) \times (1 - Eff2) \times (1 - Eff3) \times \ldots \times (1 - Effn)]$$

where:
Eff1 = efficiency (as a decimal) of initial or first treatment system
Eff2 = efficiency (as a decimal) of second treatment system
Eff3 = efficiency (as a decimal) of third treatment system
Effn = efficiency (as a decimal) of the n^{th} treatment system

Catchment	Treatment 1	Treatment 2
1A (West)	Biofiltration (Rain Garden) (3)	-
1B (North)	Grass Swale (1)	Biofiltration (Rain Garden) (3)
1C (Roof)	Biofiltration (Rain Garden) (3)	-
1D (South)	Grass Swale (2)	Biofiltration (Rain Garden) (3)

Treatment Details:
Biofiltration (Rain Garden) Treatment Train:
Detention (with underdrain) + IFGEM (**Iron**, Tire Crumb, Clay, and Sand) Media Mix

	Detention (1 day residence)	IFGEM Media	Treatment Train Efficiency
TN	8.1%	80%	81.6%
TP	40.1%	95%	97.0%

Site	Total Catchment Area (ac)	Non-DCIA CN	% DCIA	Total Nitrogen (TN)		Total Phosphorus (TP)		Treatment 1 % Reduction		Treatment 2 % Reduction		Load Remaining (lb/yr)	
				EMC TN (mg/l)	Annual TN Load (lb/yr)	EMC TP (mg/l)	Annual TP Load (lb/yr)	TN	TP	TN	TP	TN	TP
1A	0.27	85	55%	1.84	3.26	0.520	0.92	81.6%	97.0%	-	-	0.60	0.03
1B	0.17		5%		0.89		0.25	64.8%	64.8%	81.6%	97.0%	0.06	0.00
1C	0.32		100%		5.71		1.61	81.6%	97.0%	-	-	1.05	0.05
1D	0.07		5%		0.39		0.11	64.8%	64.8%	81.6%	97.0%	0.03	0.00
Total					10.24		2.90					**1.75**	**0.08**

TN (1.75 lb/yr) < Allowable TN (5.63 lb/yr) ☑
TP (0.08 lb/yr) > Allowable TP (0.58 lb/yr) ☑

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Case Study 2

- Project Introduction
- Pre/Post Nutrient Loading
- Nutrient Reduction Calculations

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Project Introduction

- Classified as new development
- Wastewater treatment plant (industrial land use)
- Increasing impervious cover and DCIA within impaired watershed

Pre Nutrient Loading

Site	Total Catchment Area (ac)	Land Use	Non-DCIA CN	Existing				Total Nitrogen (TN)		Total Phosphorus (TP)	
				% DCIA	ROC Value	DCIA (ac)	Annual Runoff Volume (ac-ft)	EMC TN (mg/l)	Existing Annual TN Load (lb/yr)	EMC TP (mg/l)	Existing Annual TP Load (lb/yr)
1	0.86	Industrial	81	20%	0.30	0.17	1.09	1.20	3.57	0.26	0.77
2	2.14	Industrial		10%	0.23	0.21	2.09		6.82		1.48
		Total				**0.39**	**3.18**		**10.39**		**2.25**

From Table 4-1 of SFWMD Design Criteria (2007) – Check appropriate WMD for Land Use Definitions if you have questions

Industrial	Land uses include manufacturing, shipping and transportation services, sewage treatment facilities, water supply plants, and solid waste disposal; internal roadways associated with the development are also included

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Post Nutrient Loading

Site	Total Catchment Area (ac)	Land Use	Non-DCIA CN	Proposed				Total Nitrogen (TN)		Total Phosphorus (TP)	
				% DCIA	ROC Value	DCIA (ac)	Annual Runoff Volume (ac-ft)	EMC TN (mg/l)	Annual TN Load (lb/yr)	EMC TP (mg/l)	Annual TP Load (lb/yr)
1	0.13	Industrial	81	85%	0.75	0.11	0.41	1.20	1.34	0.26	0.29
2	0.43			30%	0.37	0.13	0.68		2.21		0.48
3	2.44			65%	0.64	1.71	6.66		21.73		4.71
		Total				**1.94**	**7.75**		**25.28**		**5.48**

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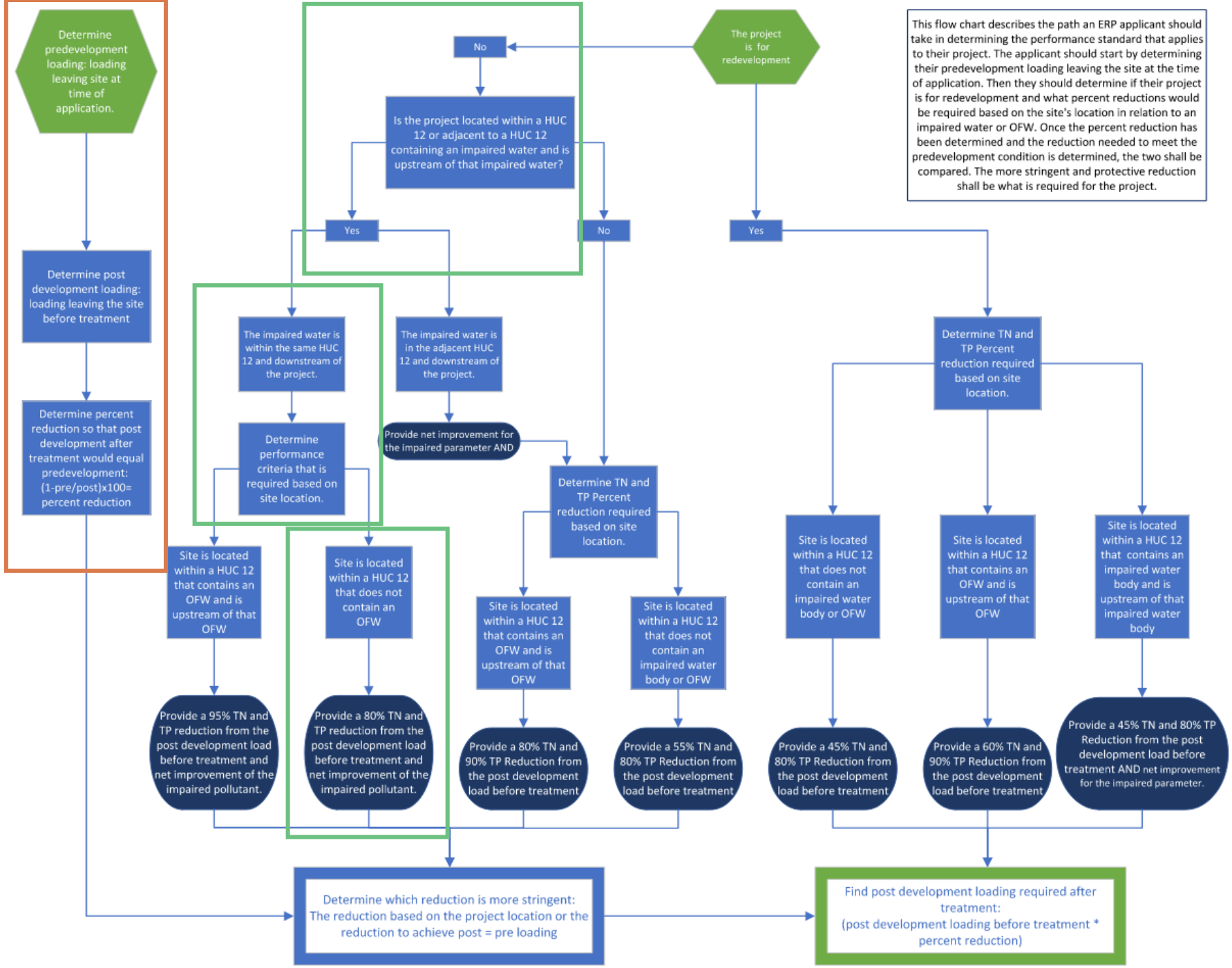
Performance Standards

- Determine reduction requirement
  - Post ≤ Pre,
  - Project Location (Impaired),
    - 80% TN and 80% TP
  - And net improvement for pollutant of concern



Post Reduction Requirement

- Post – Pre TN Load (lb/yr)
  - 25.28 – 10.39 = +14.89 lb/yr (58.9%)
- Post – Pre TP Load (lb/yr)
  - 5.48 – 2.25 = +3.23 lb/yr (58.9%)

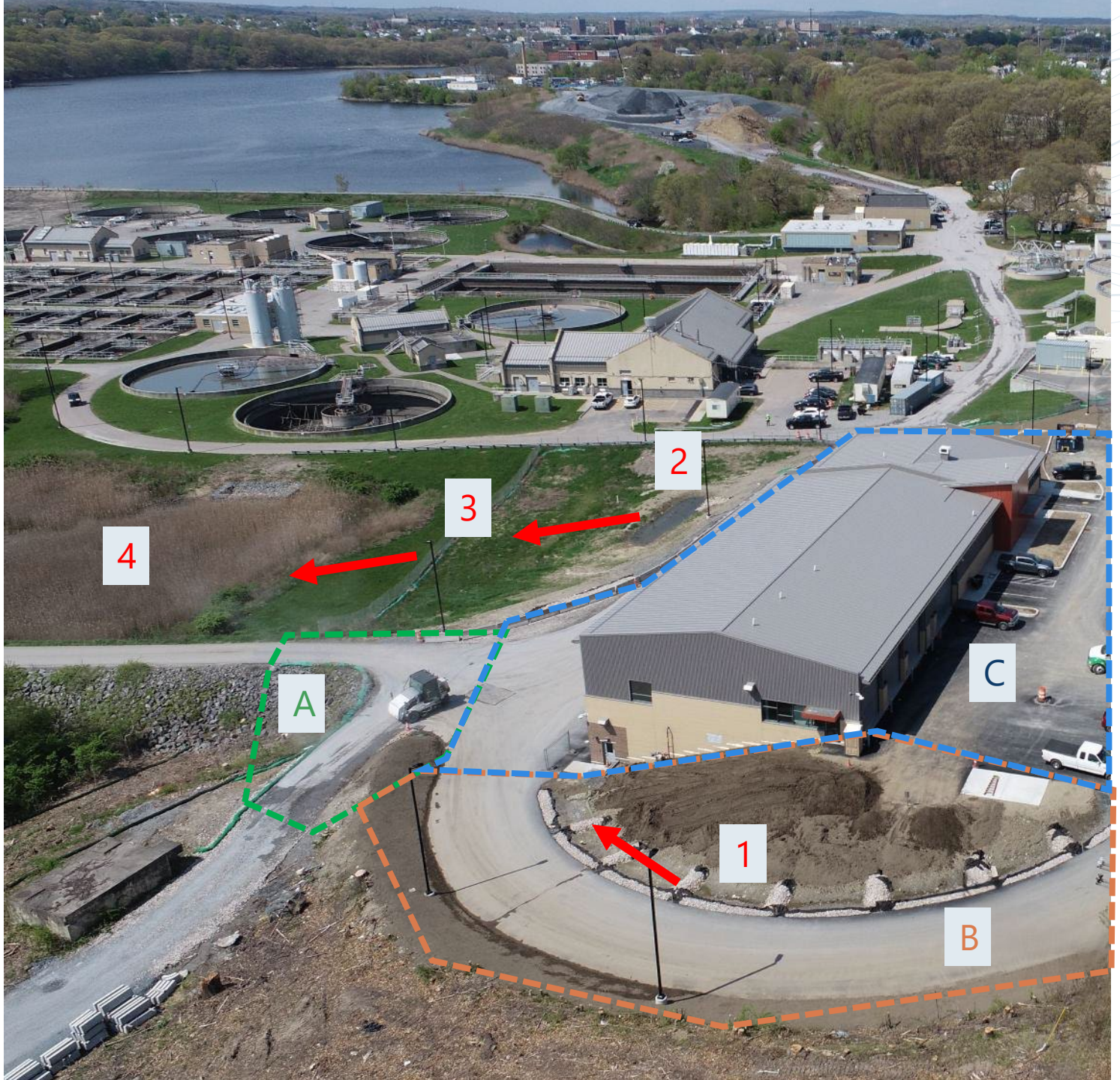
	Post ≤ Pre	Project Location
TN	58.9%	**80%**
TP	58.9%	**80%**

$$\left(1 - \left(\frac{Predevelopment\ Loading\ \left(\frac{lb}{yr}\right)}{Postdevelopment\ Loading\ \left(\frac{lb}{yr}\right)}\right)\right) X\ 100$$

Pollutant	Post Load (lb/yr)	Required Reduction		Allowable Post Load (lb/yr)
		%	lb/yr	
TN	25.28	80%	20.23	**5.06**
TP	5.48	80%	4.38	**1.10**

Post Treatment

Catchment	Treatment 1	Treatment 2	Treatment 3	Treatment 4
A (Untreated)	-	-	-	-
B	Swale with blocks (1)	Wet Detention (2)	Vegetated Filter Strip (3)	Wet Detention (4)
C	Wet Detention (2)	Vegetated Filter Strip (3)	Wet Detention (4)	-



Post Treatment

$$Overall\ Treatment\ Train\ Efficiency = 1 - [(1 - Eff1) \times (1 - Eff2) \times (1 - Eff3) \times \ldots \times (1 - Effn)]$$

where:
Eff1 = efficiency (as a decimal) of initial or first treatment system
Eff2 = efficiency (as a decimal) of second treatment system
Eff3 = efficiency (as a decimal) of third treatment system
Effn = efficiency (as a decimal) of the n^{th} treatment system

Catchment	Treatment 1	Treatment 2	Treatment 3	Treatment 4	Treatment Train Efficiency	
					TN	TP
A (Untreated)	-	-	-	-	0%	0%
B	Swale with blocks (1)	Wet Detention (2)	Vegetated Buffer (3)	Wet Detention (4)	94.8%	95.8%
C	Wet Detention (2)	Vegetated Buffer (3)	Wet Detention (4)	-	81.3%	84.9%

Treatment Details:
Swale with blocks – 1" treatment (dry retention)
Wet Detention (2) – 1/10 day detention time
Vegetated Buffer (3) = width: 140', length: 110', width of feeder area: 12'
Wet Detention (4) – 3 day detention time

Site	Total Catchment Area (ac)	Non-DCIA CN	% DCIA	Total Nitrogen (TN)		Total Phosphorus (TP)		Treatment 1 % Reduction		Treatment 2 % Reduction		Treatment 3 % Reduction		Treatment 4 % Reduction		Load Remaining (lb/yr)	
				EMC TN (mg/l)	Annual TN Load (lb/yr)	EMC TP (mg/l)	Annual TP Load (lb/yr)	TN	TP	TN	TP	TN	TP	TN	TP	TN	TP
A	0.13	81	85%	1.20	1.34	0.26	0.29	-	-	-	-	-	-	-	-	1.34	0.29
B	0.43		30%		2.21		0.48	72.1%	72.1%	<1%	26.6%	77%	61%	17.8%	47.4%	0.11	0.02
C	2.44		70%		21.73		4.71	<1%	26.6%	77%	61%	17.8%	47.4%	-	-	4.06	0.71
Total					25.28		5.48									**5.52**	**1.02**

TN (5.52 lb/yr) > Allowable TN (5.06 lb/yr) ✗
TP (1.02 lb/yr) < Allowable TP (1.10 lb/yr) ✓

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Post Treatment

$$Overall\ Treatment\ Train\ Efficiency = 1 - [(1 - Eff1) \times (1 - Eff2) \times (1 - Eff3) \times \ldots \times (1 - Effn)]$$

where:
Eff1 = efficiency (as a decimal) of initial or first treatment system
Eff2 = efficiency (as a decimal) of second treatment system
Eff3 = efficiency (as a decimal) of third treatment system
Effn = efficiency (as a decimal) of the n^{th} treatment system

Catchment	Treatment 1	Treatment 2	Treatment 3	Treatment 4	Treatment Train Efficiency	
					TN	TP
A (Untreated)	-	-	-	-	0%	0%
B	Swale with blocks (1)	Wet Detention (2)	Vegetated Buffer (3)	Wet Detention (4)	95.9%	96.7%
C	Wet Detention (2)	Vegetated Buffer (3)	Wet Detention (4)	-	85.2%	88.1%

Treatment Details:
Swale with blocks – 1" treatment (dry retention)
Wet Detention (2) – 1/10 day detention time
Vegetated Buffer (3) = width: 140', length: 110', width of feeder area: 12'
Wet Detention (4) – 3 day detention time **with managed aquatic plants system (12% TN and TP reduction) and littoral zone (10% TN and TP reduction)**

Site	Total Catchment Area (ac)	Non-DCIA CN	% DCIA	Total Nitrogen (TN)		Total Phosphorus (TP)		Treatment 1 % Reduction		Treatment 2 % Reduction		Treatment 3 % Reduction		Treatment 4 % Reduction		Load Remaining (lb/yr)	
				EMC TN (mg/l)	Annual TN Load (lb/yr)	EMC TP (mg/l)	Annual TP Load (lb/yr)	TN	TP	TN	TP	TN	TP	TN	TP	TN	TP
A	0.13	81	85%	1.20	1.34	0.26	0.29	-	-	-	-	-	-	-	-	1.34	0.29
B	0.43		30%		2.21		0.48	72.1%	72.1%	<1%	26.6%	77%	61%	34.9%	58.3%	0.09	0.02
C	2.44		70%		21.73		4.71	<1%	26.6%	77%	61%	34.9%	58.3%	-	-	3.22	0.56
Total					25.28		5.48									**4.65**	**0.87**

TN (4.65lb/yr) < Allowable TN (5.06 lb/yr) ☑
TP (0.87 lb/yr) < Allowable TP (1.10 lb/yr) ☑

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Key Takeaways

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Key Design Takeaways

Small-scale, treatment train systems are valuable

- Providing limited treatment is better than no treatment

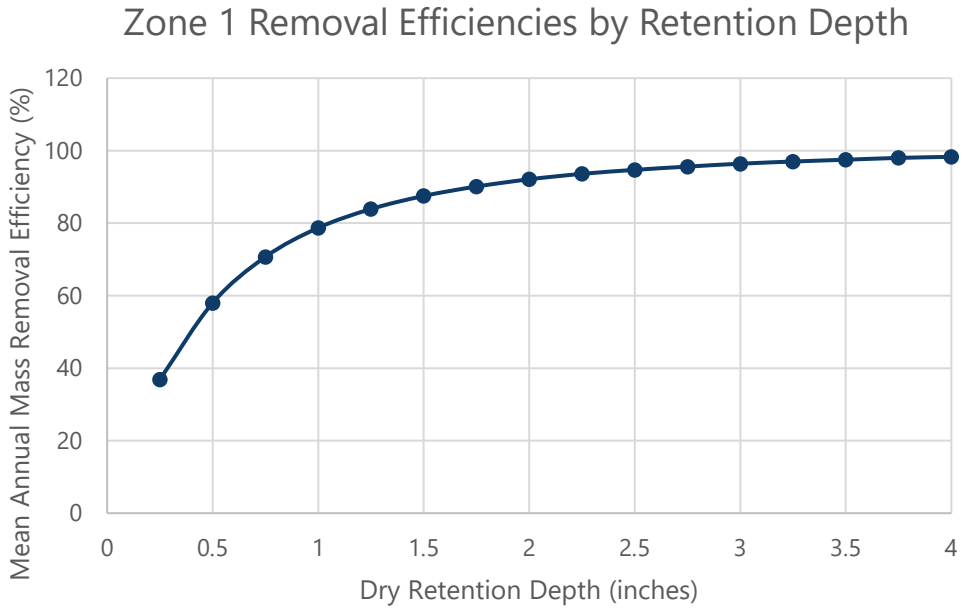
Disconnect impervious area whenever possible

Constrained sites – get innovative with filter media

Wet ponds – littoral zones and floating wetlands/managed aquatic plant systems can push treatment % over the top

Prioritize shallow, infiltration systems treating at the source when feasible

Treatment trains are our friend



A.H. Vol. 1 Appendix O Dry Retention System Performance Tables (using 50% DCIA and a Non-DCIA CN of 50)

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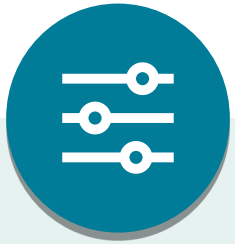
Key Project Management Takeaways

Time

Treatment calculations may be more time consuming and should be budgeted.



Design

Calculations provide options/flexibility but may become more iterative.

Cost

Consider installation, operation, and maintenance cost in the design. Communicate these with the client during design development.

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Questions?

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Thank You!

FSA Florida Stormwater Association

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